Department of Energy
Washington, DC 20585
October 16, 2000

RCRA Docket Information Center
U.S. Environmental Protection Agency Headquarters (EPA, HQ)
Office of Solid Waste (5305G)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460-0002

Docket Number F-1999-WH2P-FFFFF

Dear Sir or Madam:

Re: 64 FR 63382, "Hazardous Waste Identification Rule (HWIR): Identification and Listing of Hazardous Wastes"

On November 19, 1999, the Environmental Protection Agency (EPA) published a notice of proposed rulemaking (NPRM) in the *Federal Register* which, among other things, discusses an implementation framework for an exemption from hazardous waste management requirements for wastes that meet chemical-specific exemption levels (referred to as "the HWIR exemption"). The NPRM also discusses possible revisions to the Land Disposal Restriction (LDR) treatment standards. In addition, the NPRM contains a proposal to retain and amend the mixture rule (40 CFR 261.3(a)(2)(iii) and (iv)) and the derived-from rule (40 CFR 261.3(c)(2)(i)), on which comments were requested by February 17, 2000.

Regarding the sections of the NPRM which address the HWIR exemption framework and possible changes to the LDR treatment requirements, comments were requested by May 17, 2000. Subsequently, EPA extended the comment period on these portions of the NPRM twice: first until August 15, 2000 (65 FR 20934; April 19, 2000); then until October 16, 2000 (65 FR 44491; July 18, 2000). The second notice of extension was included in a notice of data availability (NODA) and request for comment on human health and ecological risk data and information relating to the HWIR exemption. Comments on the NODA were also requested by October 16, 2000.

On February 17, 2000, the Department of Energy (DOE) filed a comment package addressing the proposed retention and amendment of the mixture and derived-from rules. Today's letter forwards the DOE consolidated response to EPA's proposed HWIR exemption framework and the possible revisions to the LDR treatment standards. In regard to the NODA containing human health and ecological risk data and information relating to the HWIR exemption (65 FR 44491; July 18, 2000)(Docket No. F-2000-WH2A-FFFFF), DOE has reviewed the notice and does not plan to submit separate comments.

DOE appreciates the opportunity to comment on the proposed HWIR exemption framework. The Department agrees with the need for and appropriateness of changes to the RCRA hazardous waste identification program (such as those embodied in the proposed HWIR exemption framework) to better match waste management requirements with the risks posed by low-risk wastes. In addition, DOE believes

the proposed HWIR exemption framework will provide relief from inconsistencies in the regulation of listed wastes containing certain hazardous constituents and greater flexibility for managing low-risk solid wastes that have been listed as hazardous wastes, or have been mixed with, derived from, or contain listed hazardous wastes. For these reasons, DOE commends EPA for its perseverance in pursuing a risk-based HWIR exemption framework as an alternative to delisting for listed hazardous wastes regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA).

DOE believes certain parts of the HWIR exemption proposal would benefit from further clarification, as explained in the enclosed consolidated comment package. The comments in the package are divided into two sections: general and specific. The general comments provide overarching reactions to sections of the NPRM which address the HWIR exemption framework. The specific comments relate directly to potential regulatory approaches and issues raised in such sections. For clarity, each specific comment is preceded by a reference to the section of the NPRM to which it applies, and a brief description is given in boldface type of the issue within that section to which DOE's comment is directed.

If there are questions, or if you need further information about any comment, please contact Bill Fortune of my staff at (202) 586-7302.

Sincerely,

Thomas T. Traceski
Director, RCRA/CERCLA Division
Office of Environmental Policy and Guidance

Enclosure

cc: T. Atagi, Office of Solid Waste (5304W)

UNITED STATES
DEPARTMENT OF ENERGY

Comments On
HAZARDOUS WASTE IDENTIFICATION RULE (HWIR): IDENTIFICATION AND LISTING OF HAZARDOUS WASTES

NOTICE OF PROPOSED RULEMAKING
Sections V - XXVI
(64 FR 63382, 63391 - 63461; November 19, 1999)

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GENERAL COMMENTS

1. DOE supports the development of a regulatory framework that would implement an exemption (from hazardous waste management requirements) applicable to low-risk hazardous wastes that meet chemical-specific exemption levels.

DOE commends EPA's continued effort to establish risk-based exemption levels as an alternative to delisting for listed hazardous wastes regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA). DOE believes that the two HWIR exemption options comprised by the framework described in this notice of proposed rulemaking (NPRM) will provide relief from inconsistencies in the regulation of listed wastes containing certain hazardous constituents and greater flexibility for managing low-risk solid wastes that have been listed as hazardous wastes, or have been mixed with, derived from, or contain listed hazardous wastes. The HWIR exemption options should also encourage pollution prevention and the development of innovative waste treatment technologies because, after exemption requirements have been defined, generators will have an incentive to minimize the toxic chemical concentrations in listed wastes to below the exemption levels. Furthermore, since the proposed regulatory approach would require no prior government approval or review of documentation before wastes become eligible for exemption from RCRA Subtitle C provisions, attaining the exemptions for listed wastes that meet the risk-based threshold levels (and thus, achieve levels that present no significant threats to human health or the environment) should be facilitated. Notwithstanding, the responsible oversight agency will be notified when an HWIR exemption is claimed. Hence, the regulatory agency may review and verify exemption claims, and take enforcement action, should an exemption claim be determined to be inaccurate or otherwise invalid.

2. DOE is concerned that the HWIR exemption may be inconsistently implemented by States.

DOE agrees with the need for and appropriateness of changes to the RCRA hazardous waste identification program to better match waste management requirements with the risks posed by low-risk wastes (i.e., as-generated wastes that contain chemical constituents below risk-based levels or wastes that have been treated to meet such levels). However, the Department is concerned that the actual implementation of the regulatory framework for the HWIR exemptions could vary significantly from State to State, and thus, complicate and potentially negate (in certain States) the intent of the exemptions.

Under the RCRA provisions related to authorizing States to administer and enforce hazardous waste programs, a low-risk solid waste that qualifies for an HWIR exemption from RCRA Subtitle C regulation in one State might not qualify for such exemption in other States. This situation may arise because the hazardous constituent concentration limits and other conditions of any HWIR exemption (when proposed)

will probably be considered less stringent than, or a reduction in the scope of, the existing Federal regulations.[1]

DOE has previously commented that the potential for a "patchwork" of differing State programs is an issue with respect to HWIR exemptions.[2] Specifically, DOE is concerned that differences in the extent to which various States adopt the HWIR exemptions could significantly delay and encumber the efficiency of waste management (and environmental restoration) activities for owners/operators that have or utilize facilities across multiple States (e.g., the DOE complex). With this in mind, the Department urges EPA to closely coordinate development of the final HWIR exemptions with the States, and to provide guidance which promotes criteria and approaches that will minimize inconsistency among State programs.

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[1] Note: States are only required to modify their programs when EPA promulgates Federal regulations that are more stringent or broader in scope than the authorized State regulations.

[2] See DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, General Comment 7, pp. 17-18, and Specific Comment XIII.B, item 1, p. 75 (19 April 1996); DOE Comments, Proposed Rule regarding *Hazardous Waste Management System, Identification and Listing of Hazardous Waste*, Crosscutting Issues, Consistent State Implementation Should Be Ensured, p. 9 (24 July 1992).

SPECIFIC COMMENTS

VI. What Options Is EPA Developing for the HWIR Exemption?

VI.A. What Is the Generic HWIR Exemption Option?

1. p. 63392, col. 2 – The preamble states that the generic HWIR exemption option is based on the premise that the HWIR exemption levels would be protective in all reasonable waste disposal scenarios. Therefore, the preamble explains, there would be no limits on where a waste that meets the generic HWIR exemption levels could be disposed, except for existing State requirements that apply to all nonhazardous industrial wastes.

In general, DOE favors development of the generic HWIR exemption option. However, DOE notes that EPA does not explain in the NPRM how the generic HWIR exemption would apply to radioactive wastes mixed with any listed hazardous waste(s). Consequently, DOE requests confirmation from EPA that a radioactive waste, which contains, or is mixed with or derived from a listed hazardous waste, and *which meets applicable generic HWIR exemption levels at either its point of generation or its point of characterization if it is legacy waste*,[3] may be managed in an appropriate radioactive waste management unit subject to controls under the Atomic Energy Act of 1954 (AEA). DOE believes this interpretation is proper because, as EPA states elsewhere in the preamble (p. 63403, col. 2), a waste that has been shown to meet the HWIR exemption levels at its point of generation would be considered by EPA never to have been hazardous. Hence, from its point of generation, such a waste should be subject only to otherwise applicable regulatory requirements, which in the case of radioactive wastes would be AEA controls administered by NRC, an NRC Agreement State, or DOE.

In addition, DOE requests that EPA clarify that a radioactive waste, which contains, or is mixed with or derived from a listed hazardous waste, and *which has been treated to meet applicable generic HWIR exemption levels*, also may be managed in an appropriate radioactive waste management unit subject to controls under the AEA. DOE believes this interpretation is proper because a waste management unit subject to AEA controls, whether administered by DOE, NRC, or an NRC Agreement State, would be no less protective of human health and the environment with respect to hazardous constituents than a nonhazardous waste management unit subject to RCRA Subtitle D controls, which is the basis for the generic HWIR exemption levels. Accordingly, since under the generic HWIR exemption EPA would allow disposal of qualifying nonradioactive wastes in nonhazardous waste management units subject to RCRA Subtitle D controls, DOE believes disposal of qualifying mixed wastes in appropriate radioactive waste management units subject to AEA controls should also be acceptable.

VI.B. What Is the Landfill-Only HWIR Exemption?

1. p. 63392, col. 2 – The NPRM explains that under the landfill-only HWIR exemption, waste would have to meet a different set of HWIR exemption levels than under the generic HWIR exemption. Subsequent disposal in a landfill would then be required. Disposal in a land application unit would not be allowed for wastes subject to the HWIR landfill-only exemption.

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[3] Legacy waste means waste that was generated by past nuclear weapons development activities and is in storage because appropriate treatment technologies have not been developed, or treatment and disposal capacity has not been available.

In general DOE supports development of the landfill-only HWIR exemption option. However, DOE notes that EPA does not explain in the NPRM how the landfill-only HWIR exemption would apply to radioactive wastes mixed with listed hazardous waste. Consequently, DOE requests confirmation from EPA that a radioactive waste, which contains or is mixed with or derived from a listed hazardous waste, and which meets applicable landfill-only HWIR exemption levels, may be managed in an appropriate radioactive waste management unit subject to controls under the AEA. DOE believes this interpretation is proper because a radioactive waste management unit subject to AEA controls, whether administered by NRC, an NRC Agreement State, or DOE, would be at least as protective of human health and the environment with respect to hazardous constituents as a nonhazardous waste landfill subject to RCRA Subtitle D controls, which is the basis for the landfill-only HWIR exemption levels.

VI.C. What Implementation Options Are in Both the 1995 HWIR Proposal and Today's Notice?

1. <u>p. 63393, col. 1</u> – EPA explains that the 1999 HWIR proposal would scale back the testing requirements so that facilities only have to test for chemicals "reasonably expected" to be in their wastes.

DOE supports limiting the constituents for which testing would be required in order to qualify wastes for an HWIR exemption to those constituents reasonably expected to be present in the waste. (See Specific Comment IX.A, item 1 (p. 6), below.)

2. <u>p. 63393, col. 1</u> – EPA explains that, under the generic option, three categories of wastes would be addressed (i.e., liquids, semi-solids, and solids) rather than two (i.e., wastewaters and nonwastewaters), as proposed in the 1995 HWIR proposal.

In DOE's comments in response to the 1995 HWIR proposal,[4] the Department encouraged EPA to utilize the same waste category definitions in the HWIR program as are used in the LDR program. DOE's primary observations were: (1) that adopting different definitions in the HWIR program for the terms "wastewater" and "nonwastewater" than the existing definitions in the LDR program would be confusing; and (2) that using the same definitions in both programs, assuming that EPA redeveloped the HWIR exemption levels accordingly, might eliminate the need to establish "minimize threat" LDR treatment standards as a separate concept from HWIR exit levels. DOE believes that the approach EPA suggests for defining three categories of wastes (i.e., liquids, semi-solids, and solids), as described in the 1999 HWIR proposal, should satisfactorily address these matters. (See Specific Comment XIX.C, item 1 (p. 22), below.)

3. <u>p. 63393, col. 1</u> – EPA explains that the 1999 HWIR proposal includes waste tracking requirements for wastes which qualify for the landfill-only exemption to ensure that such wastes arrive at their intended landfill destinations.

DOE agrees that wastes which qualify for the landfill-only HWIR exemption should be tracked. However, DOE believes the requirements for accomplishing this purpose should be kept uncomplicated. For this reason, DOE supports EPA's first proposed alternative (p. 63406, col. 1), which would require the generator or treatment facility: (1) to notify the designated landfill operator of the shipment of landfill-only exempt

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[4] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.1.a.ii, item 1, pp. 51-52 (19 April 1996).

waste; and (2) to receive certification from the landfill operator that the waste arrived within 60 days of the shipment date. (See Specific Comment XII.B, item 2 (p. 15), below.)

VII. What Wastes Would Be Eligible for an HWIR Exemption?

1. p. 63394, col. 2 – The preamble states that a listed hazardous waste would be eligible for an HWIR exemption once all the HWIR exemption levels are achieved.

As indicated in Specific Comments VI.A (p. 3) and VI.B (p. 3), above , DOE requests confirmation that a radioactive waste, which contains, or is mixed with or derived from a listed hazardous waste, and which meets applicable HWIR exemption levels may be managed in an appropriate radioactive waste management unit subject to AEA controls, whether administered by NRC, an NRC Agreement State, or DOE.

VIII. What Level of Governmental Review Would Be Needed for an HWIR Exemption Claim?

1. p. 63394, col. 2 - p. 63395, col. 2 – The preamble explains that both the generic and the landfill-only HWIR exemptions would be self-implementing. No prior government approval or review of documentation would be required before the exemptions become effective. Notwithstanding, an exemption would not become effective until receipt of written confirmation that the notification package was received by the responsible regulatory agency. EPA requests comment on whether the HWIR exemptions should be self-implementing.

DOE supports the Agency's preferred option of establishing HWIR exemptions that are self-implementing. Such an approach would be consistent with other existing RCRA waste identification requirements. For example (in addition to the examples cited by EPA at p. 63394, col. 3), under existing regulations, the generator of a waste that exhibits a hazardous characteristic may dispose of the waste as nonhazardous in a RCRA Subtitle D facility without prior approval from the responsible regulatory agency, provided the generator notifies the responsible regulatory agency in accordance with 40 CFR 268.9(d), and certifies that, at the point of disposal, the waste does not exhibit any hazardous characteristics and meets applicable LDR treatment standards [40 CFR 268.9(d)]. Similarly, a mixture of a solid waste and a listed hazardous waste which is listed solely because it exhibits a hazardous characteristic, may be managed as nonhazardous without prior approval if the generator keeps records demonstrating that, at the point of disposal, the mixture does not exhibit any hazardous characteristics and meets applicable LDR treatment standards [40 CFR 261.3(a)(2)(iii)]. Accordingly, DOE believes it is appropriate and consistent with existing RCRA regulatory requirements for generators who can demonstrate compliance with the HWIR exemption requirements, to be allowed to manage qualifying wastes as nonhazardous without prior regulatory approval. Furthermore, DOE submits that imposing a waiting period (as is further discussed in Specific Comment VIII, item 2 (p. 5), below) or requiring public notice (as is further discussed in Specific Comment IX.E, item 1 (p. 11), below) would be inconsistent with the concept of self-implementation.

2. p. 63394, col. 3 - p. 63395, col. 2 – The preamble reports that most commenters on the 1995 HWIR proposal opposed a waiting period before an HWIR exemption claim would become effective. EPA requests comment on whether there should be a waiting period before the exemption takes effect.

Consistent with its support of self-implementing HWIR exemptions and its comments in response to the 1995 HWIR proposal,[5] DOE opposes a waiting period before an exemption takes effect. DOE believes that a waiting period is unnecessary, unless the responsible regulatory agency will take some specified action during the waiting period (such as approving the exemption), or some other purpose will be served (such as providing an opportunity for public comment). If no regulatory action is required during an imposed waiting period, DOE is concerned that some members of the public and the regulated community could be mislead (i.e., the waiting period could be misinterpreted as being for the purpose of agency or public review, comment and approval of the notification package). Specific Comment XI.B, item 1 (p. 14), below, provides additional DOE remarks regarding a mandatory waiting period before an HWIR exemption takes effect.

IX. For the Generic HWIR Exemption, What Steps Would I Follow Before My Waste Could Be Exempted?

IX.A. For Which Chemicals Would I Have To Analyze To Obtain an HWIR Exemption?

1. p. 63397, col. 1 – The preamble explains that claimants of an HWIR exemption would be required to test their waste for all chemicals reasonably expected to be present, which would include: (1) chemicals identified as the basis for listing the waste; (2) chemicals listed as requiring treatment in the table of LDR treatment standards (40 CFR 268.40) for the waste; (3) chemicals detected in any previous analysis of the waste; (4) chemicals introduced into the process that generates the waste; and (5) chemicals that are known to result from side reactions or are byproducts of the process that generates the waste. EPA requests comment on this guidance for determining which chemicals are "reasonably expected to be present." In particular, EPA requests comment on whether and how to adjust the list of chemicals requiring analysis (as outlined above) in the case of broader waste listings such as electroplating operation wastes (EPA hazardous waste no. F006) or spent solvents (EPA hazardous waste nos. F001-F005).

DOE supports the proposed approach which would require testing for those chemicals reasonably expected to be present in the waste (CREWs) in order to claim an HWIR exemption. As was stated in DOE's comments in response to the 1995 HWIR proposal,[6] the Department agrees that testing for chemicals in the following categories would be appropriate:

- Chemicals identified as the basis for listing the waste stream;
- Chemicals detected in any previous analysis of the same waste stream;
- Chemicals introduced into the process which generates the waste stream; and
- Chemicals known to result from side reactions or to be byproducts of the process that generates the waste stream.

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[5] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.2, item 4, pp. 59-60 (19 April 1996).

[6] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.1.b, item 1, pp. 55-57 (19 April 1996).

However, DOE does not agree that testing should be required in the case of every waste for all chemicals listed in the table of LDR treatment standards (40 CFR 268.40) as requiring treatment. Such an approach is overly conservative, particularly for broad hazardous waste listings such as spent solvents (F001-F005 waste codes). In the regulated hazardous constituents column for the F001-F005 entry, the table in 40 CFR 268.40 lists all chemicals that could be found in any spent solvent meeting one of the five spent solvent waste code descriptions. However, it is unlikely that all of these chemicals would ever be present in any one spent solvent waste. Hence, although many spent solvent wastes contain a mixture of several of the listed solvent constituents, it would be inappropriate to assume that *all* listed solvent constituents could reasonably be present in each individual waste. In many cases the waste generator would be able to eliminate certain constituents from further consideration based on knowledge of the unused solvent and use of the solvent in the process. Accordingly, DOE suggests that, in cases such as F001-F005 spent solvents, EPA allow claimants of an HWIR exemption to identify chemicals reasonably expected to be present (and thus requiring testing) on a case-by-case basis using process knowledge. DOE suggests that a process knowledge approach could also be used for identifying constituents reasonably expected to be present in F006 electroplating waste.

Claimants could be required to document the bases of their process knowledge and retain such documentation for review by the responsible regulatory agency upon request. Examples of types of information that EPA should allow claimant's to rely on as documentation of process knowledge include, but are not limited to the following:

- Information prepared to comply with environmental laws other than RCRA, such as the Occupational Safety and Health Act (OSHAct) (Hazard Communication Rule), the Superfund Amendments and Reauthorization Act (SARA) Title III (Toxic Release Inventory Requirements), and the Clean Air Act Amendments of 1990 (Air Emissions Inventory Requirements).
- Results of surrogate testing (e.g., testing of a waste stream from the same process at a different unit at the same facility or at another facility).
- Process/engineering/design information, which may include: descriptions; flow diagrams; inputs (e.g., Material Safety Data Sheets), reactions, and outputs (e.g., products and by-products); experiment protocols; process specifications; operating procedures; laboratory notebooks; and project log books.
- Data from calculations or scientific analyses.

IX.B. How Would I Have To Sample and Analyze My Waste Stream When Seeking an Exemption Under HWIR?

IX.B.1. Waste Sampling and Analysis Plan.

1. <u>p. 63397, col. 3</u> – For each waste stream that you seek to exempt, you would have to develop and follow a written plan for sampling and analyzing the waste stream. The plan must contain the following minimum provisions: (1) At least four samples of each waste stream for which exemption is sought must be analyzed; (2) Results of all analyses of samples must be documented; (3) For every chemical tested, each sample must show that the *total concentration* is at or below the exemption level.

DOE believes it is unnecessary for a new set of detailed specifications to be established mandating sampling and testing requirements applicable to claiming and maintaining an HWIR exemption. DOE suggests that, instead, EPA require claimants of an HWIR exemption to establish, on waste-specific basis, the approach for sampling and testing that will support the HWIR exemption claim and subsequent testing requirements. EPA

could require that the approach be documented in a waste analysis plan, which meets the requirements of 40 CFR 264.13, and if necessary, certain minimum waste sampling and analysis requirements particular to the HWIR exemption program could be added to the regulations. DOE believes this approach would facilitate facility implementation of the rule by providing a familiar set of requirements (i.e., those governing the facility's RCRA Waste Analysis Plan) that are compatible with existing operating practices, and that would reflect the characteristics of the exempt waste stream.

DOE requests that, regardless of how EPA chooses to handle sampling and testing requirements applicable to claiming and maintaining an HWIR exemption in the final HWIR, such requirements refer to and support use of the *Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste* (62 FR 62709; November 20, 1997) for sampling and testing of mixed wastes. DOE believes that avoidance of unnecessary exposures to radioactivity when conducting sampling and testing of mixed wastes, a concept which is promoted by the *Joint NRC/EPA Guidance*, should be emphasized in the final HWIR, as it has been in other EPA rulemakings.

IX.B.2 Waste Stream Characterization and Demonstration of Compliance With the HWIR Exemption Levels.

1. p. 63398, col. 2 - p. 63399, col. 2 – The preamble explains that EPA plans to require that a minimum of four samples be collected and analyzed to demonstrate that a waste stream qualifies for an HWIR exemption. If any sample exceeds the HWIR exemption levels, the waste stream would be disqualified. EPA requests comment on the strict maximum standard against which to evaluate a waste stream for an HWIR exemption.

DOE understands the reasons given in the preamble for requiring that every sample be at or below the exemption levels. Notwithstanding, as was stated in DOE's comments in response to the 1995 HWIR proposal,[7] the Department believes that characterization of a waste based on a single sampling event at an arbitrary point in space and time should not be the sole basis for disqualifying the waste as eligible for an HWIR exemption. Such an approach may unnecessarily prevent certain wastes from qualifying for an HWIR exemption even though they are extremely low-risk wastes (and good candidates for exemption). Of particular concern are exceedences in individual samples, which may just reflect an occasional outlier (for whatever reason). Consequently, DOE would prefer adoption of a statistical approach for demonstrating compliance with the exemption levels. Additional comments on this alternative are provided in Specific Comment IX.C (p. 9, below).

2. p. 63398, col. 3 – EPA requests comment on both the need for a minimum number of samples to demonstrate compliance with HWIR exemption levels, and what that minimum number should be.

DOE agrees that it would be appropriate for the regulations to specify a minimum number of samples required to establish compliance with HWIR exemption levels. For homogeneous waste streams that are well below the exemption levels, a minimum of four samples, as proposed, should be acceptable. DOE also agrees that for situations involving heterogeneous waste, the appropriate number of samples for waste characterization and demonstration of compliance with HWIR exemption levels is likely to exceed four. Hence, DOE supports requiring claimants to develop a waste analysis plan, which establishes the appropriate

[7] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.1.a.i, item 1, p. 49 (19 April 1996).

number of samples (with a minimum of four) based on variability of the particular waste stream for which an HWIR exemption is claimed.

3. p. 63398, col. 3 – The preamble states that wastes that become exempt after the point they are generated would still have to fulfill LDR requirements.

DOE believes that, unless EPA promulgates risk-based LDR treatment standards simultaneously with the HWIR exemption levels, any regulatory relief that might otherwise be provided by the HWIR exemptions may be significantly reduced by the requirement that exempt wastes must also meet existing technology-based LDR treatment standards. DOE submits that, since it will have been shown that wastes meeting the HWIR exemption levels can be safely managed and disposed under RCRA Subtitle D, compliance with more stringent technology-based LDR treatment standards should not also be necessary.

IX.C. What Alternatives Has EPA Considered for Demonstrating Compliance With the Exemption Levels?

IX.C.1 EPA Requests Comment on Alternative Standards for Compliance.

1. p. 63400, col. 2 - p. 63401, col. 2 – The HWIR exemption levels are based on average exposure to a chemical over a lifetime, not on one-time events. In addition, the risk modeling does not consider variations in waste concentrations within a calendar year. With this in mind, EPA believes it might be appropriate to consider alternatives that would allow chemical concentrations from individual samples to exceed the HWIR exemption level. EPA requests comment on three alternative regulatory standards: (1) require the upper confidence limit associated with the estimated mean concentration in the waste to be at or below the HWIR exemption level at some level of confidence; (2) require both the average chemical concentration to be below the HWIR exemption levels and the concentration of individual samples to be below some multiple of the exemption level, which EPA suggests be set at 2.8; and (3) require the generator to calculate an upper confidence limit similar to alternative (1), but that limit would be required to be at or below some multiple of the exemption level, rather than the exemption level itself.

As previously discussed in DOE's comments in response to the 1995 HWIR proposal,[8] if EPA decides to pursue one of the three suggested alternative standards for compliance, the Department would prefer a statistical approach with an upper confidence limit for evaluating compliance with HWIR exemption levels. Individual samples may not be representative, even if adjusted with a multiplier of 2.8. The variability of many DOE waste streams, for example, which are frequently heterogeneous, could be much higher than a variability corresponding to the suggested factor of 2.8.

Using the upper confidence limit approach, EPA (or an authorized State) could still take grab samples to verify compliance. If results from testing any such sample shows an exceedence of an HWIR exemption level, the agency could require the generator to provide historical information to show that the results from the EPA sample analysis do not indicate a statistical violation of the HWIR levels. In any event, DOE maintains that the approach for demonstrating compliance should allow for occasional exceedences in individual samples. It is reasonable to expect occasional exceedences in the concentrations of hazardous

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[8] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.1.a.i, item 1, p. 49-51 (19 April 1996).

constituents in individual samples, particularly in cases involving large-volume waste streams. A statistical approach could also save generators the additional cost of re-sampling to demonstrate a return to compliance when minor exceedences occur in individual samples that do not affect the overall characterization of the waste. Accordingly, and also to provide flexibility (especially for heterogeneous waste streams), DOE prefers the third option summarized above over the first or second option.

IX.C.2 EPA Requests Comment on the Use of Grab or Composite Sampling, Where Appropriate, to Demonstrate Compliance.

1. p. 63401, col. 3 – EPA explains that the Agency is considering whether to allow composite sampling as well as grab sampling for demonstrating compliance. EPA requests comment on the consideration of composite samples, particularly spatial composites, in evaluating a waste stream for HWIR compliance.

DOE prefers the use of averaged samples (i.e., either composites or multiple grab samples) for both demonstrating compliance with HWIR exemption levels and enforcement. Concentrations derived from averaged samples have a greater degree of confidence than concentrations reflected in single grab samples. Unless single grab samples are considered in the context of previous analyses of the same waste stream (as was suggested in Specific Comment IX.C.1, item 1, above, as a method for dealing with situations in which an agency grab sample shows an exceedence), it is not possible to know if the result is real (accurate and precise), *or* merely the result of sampling and analytical errors (i.e., there is no level of confidence). With averaged samples, a level of confidence can be assigned to the average and statistical variability of the results. Therefore, DOE maintains that the type of sampling performed for both enforcement and compliance purposes should be based on the use of averaged samples. The technique for sample averaging should be specified in the claimant's waste analysis plan, based on how each waste stream for which an HWIR exemption is claimed is generated and/or collected, rather than specified generically in the regulations.

2. p. 63401, col. 3 – EPA requests comment on the need to specify the size of samples taken to evaluate a waste stream.

DOE believes that, if EPA specifies larger sample sizes for all wastes for which HWIR exemptions are claimed, the result could be unnecessary generation of more hazardous laboratory waste. Furthermore, in the case of mixed waste, DOE strives to minimize sample sizes so that, not only are analytical wastes minimized, but radiation exposure to samplers and analysts are kept as low as reasonably achievable. DOE suggests that, if sample sizes are to be specified, such specification should be done in the claimant's waste analysis plan, on a waste-specific basis, rather than in the regulations.

IX.D. What Information Would I Have to Include In the Notification Package to the Overseeing Authority?

1. p. 63402, col. 1 – EPA explains that before managing any waste as exempt under HWIR, the claimant would first have to send a notice to the Director of the State or EPA Regional authority that has jurisdiction over the facility generating the waste. The notification package would have to be sent by certified mail or other mail service that provides written confirmation that the notice was delivered. EPA requests comment on the proposed form of notification that wastes will be managed under an HWIR exemption and alternatives such as electronic submission.

DOE believes the content and form which EPA proposes for providing notice to the responsible regulatory agency of a claim for an HWIR exemption is appropriate. Regarding the alternative of electronic

submission, DOE would welcome the option to forward HWIR notification packages (as well as other data and information related to demonstrating compliance under RCRA) electronically. However, as was stated in DOE's comments in response to a June 1999 EPA notice of data availability,[9] DOE believes that the option to report RCRA data and information electronically will actually reduce the reporting and record keeping burden only if States are simultaneously willing and equipped to receive such electronic reports – since RCRA implementation in most States is conducted by a State agency (rather than EPA). Hence, DOE urges EPA to establish a legal and policy framework for electronic data reporting, and to identify tools that States and the regulated community may use to implement a system by which RCRA data and information (including HWIR notification packages) can be reported accurately and securely by electronic means.

2. p. 63402, cols. 1 & 2 – EPA requests comment on whether to require that the notification package contain a list of chemicals found in the waste and a summary of results for each sample analyzed, which could help in planning and prioritizing inspections.

DOE supports EPA's preference to keep information requirements in the notification package to a minimum. It should not be necessary for the notification package to contain a list of chemicals found in a waste for which an HWIR exemption is claimed, or a summary of results for each sample analyzed. DOE suggests that, since the overseeing agency may request inspection of any information supporting an HWIR exemption claim, the agency should simply request a list of the chemicals found in an exempt waste and the results of all analyses of such waste on a case-specific basis (i.e., if the overseeing agency believes such information is necessary for confirmation or enforcement purposes). There appears to be no public health or environmental concern to justify a blanket regulatory reporting requirement in anticipation that such a requirement *could* administratively assist responsible regulatory agencies.

IX.E. What Is the Role of the Public in the HWIR Exemption Process?

1. p. 63402, cols. 2 & 3 – The preamble states that EPA does not believe that site-specific public notices of exemption claims are necessary. Notwithstanding, EPA describes an alternative approach whereby the claimant of an HWIR exemption would be required to publish a notice in the local paper explaining the exemption. If adverse comments were received, the comments would have to be submitted to the responsible regulatory agency with the notification package, and the waste would not be exempt until the responsible agency approved the package.

DOE agrees with EPA's conclusion that existing mechanisms for public participation under RCRA make site-specific public notices of exemption claims unnecessary. Furthermore, DOE believes it would be incongruous to require public notice of exemption claims, when such notice is not required for other types of exempt wastes, examples of which are provided in Specific Comment VIII, item 1 (p. 5), above. With this in mind, DOE opposes the alternative of requiring that the claimant publish notice in a local newspaper explaining the HWIR exemption.

DOE particularly objects to the suggestion that, if the claimant receives "adverse comments" in response to a public notice explaining the HWIR exemption, the claimant should be required to forward such comments to the overseeing agency and await agency approval of the notification package before the HWIR exemption could become effective. DOE submits that the term "adverse comment" is ambiguous. Consequently, the adverse nature of a comment could be debatable. For example, if a comment merely voices objection to the exemption claim, but provides no substantive basis for the objection, would that be enough to qualify the

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[9] DOE Comments, Notice of Data Availability regarding *Office of Solid Waste Burden Reduction Project*, Specific Comment II.A, item 1, p. 1 (20 September 1999).

comment as "adverse"? Even if ambiguity were not a concern with respect to the term "adverse comments," DOE questions whether, for example, one comment opposing an exemption claim should alone trigger a requirement for agency review.

2. <u>p. 63402, col. 3 - p. 63403, col. 1</u> – EPA notes that the 1999 HWIR proposal does not advocate requiring submission of the list of chemicals found in the waste and a summary of results for each sample analyzed as part of the notification package when an HWIR exemption is sought. The Agency requests comment on whether such information should be required in the notification package for the purpose of greater public access to the information.

As stated in Specific Comment IX.D, item 2 (p. 11), above, DOE supports EPA's preference to keep information requirements in the notification package to a minimum. The notification package itself would indicate how much exempt waste is generated, and that the waste contains no hazardous chemicals in excess of exemption levels. Furthermore, the exemption levels would be publicly available as part of the regulations. This should adequately inform the public of potential risks posed by exempt waste management activities.

X. Once the Waste Becomes Exempt, What RCRA Requirements Might Still Apply?

X.B. Would a Manifest Be Needed To Track Where the HWIR Waste Was Shipped Off-Site?

1. <u>p. 63403, col. 1</u> – EPA requests comment on whether, under the HWIR generic exemption, paperwork should be required to accompany the waste in order to track the waste and provide notice to the receiving facility that the waste is HWIR-exempt.

DOE agrees with EPA's conclusion that tracking of wastes that are exempt under the generic HWIR exemption is not necessary, since wastes which qualify for the exemption present no greater risk than other nonhazardous wastes. However, if EPA decides that the receiving facility must be notified of the exempt nature of such wastes, DOE suggests the use of a simple notification statement placed on shipping papers that would otherwise accompany any shipment of nonhazardous waste. Alternatively, a simple notification statement sent directly to the receiving facility could be used.

X.C. How Would Land Disposal Restriction (LDR) Requirements Apply to the HWIR Waste?

1. <u>p. 63403, cols. 2 & 3</u> – The preamble explains that wastes that have met the HWIR exemption levels *after* the point of generation would still be subject to LDR requirements. As such, HWIR exempt wastes required to comply with LDR treatment standards would be subject to the ban against using dilution to achieve such standards. However, not all HWIR exempt wastes would be required to comply with LDR treatment standards. Therefore, EPA requests comment on whether to specifically prohibit dilution as a means of attaining the HWIR exemption levels.

As DOE stated in comments responding to the 1995 HWIR proposal,[10] the Department supports the prohibition of hazardous waste dilution to lower hazardous constituent concentrations. However, the Department has modified its thoughts on how the prohibition of dilution should be implemented (since responding to the 1995 HWIR proposal). Now, DOE believes that it is not necessary to specifically prohibit dilution as a means of attaining the HWIR exemption levels. Any waste which does not meet the HWIR exemption levels at the point of generation will be subject to the LDR treatment standards. Hence, such wastes will be subject to the dilution prohibition in 40 CFR 268.3. Any waste which meets the HWIR exemption levels at the point of generation (causing LDR treatment standards not to apply) will, as generated, already present an acceptably low risk to human health and the environment when managed in a RCRA subtitle D facility. Accordingly, dilution after the point of generation would not be a concern for such wastes. Based on these observations, DOE concludes that, if regulatory provisions were adopted to specifically prohibit dilution as a means of attaining the HWIR exemption levels, such provisions would necessarily require responsible regulatory agencies to become involved in evaluating whether a generator's efforts to prevent pollution are legitimate, or represent prohibited dilution. DOE believes it would be very difficult to establish criteria by which to evaluate waste generating processes for the purpose of enforcing a dilution prohibition. Furthermore, there is no clear benefit to be derived from doing so. Therefore, DOE recommends that EPA not specifically prohibit dilution under the HWIR regulatory framework.

If EPA decides to adopt a dilution prohibition applicable solely in the context of attaining HWIR exit levels, DOE requests clarification (as it did in response to the 1995 HWIR proposal)[11] of activities that would be considered by EPA to be "dilution."

XI. For the Generic HWIR Exemption, What Conditions and Requirements Would I Be Required to Fulfill To Maintain the Exemption?

XI.A. Would I Have to Retest the Exempted Waste Stream?

1. <u>p. 63404, col. 1</u> – EPA explains that the same sampling and analysis approach is proposed for subsequent testing as for the initial exemption. Comments are requested on the advantages and disadvantages of requiring the same testing scheme for both initial and subsequent sampling and analysis.

As indicated in several Specific Comments, above (e.g., IX.B.1, item 1 (p. 7); IX.B.2, item 2 (p. 8); IX.C.2, item 1 (p. 10); and IX.C.2, item 2 (p. 10)), DOE supports requiring claimants to establish waste analysis plans, which would define on a waste-specific basis (rather than in the regulations), most aspects of the testing scheme applicable to waste(s) for which an HWIR exemption is claimed. Accordingly, DOE supports requiring that such waste analysis plans also include a testing scheme for subsequent sampling and analysis. This way, the same testing scheme for both initial and subsequent sampling and analysis could be used, if appropriate, or different schemes could be developed, if warranted on a waste-specific basis. DOE believes that a waste analysis plan tailored to the particular waste(s) for which an HWIR exemption is claimed, rather than the regulations, is the appropriate venue for documenting both initial and subsequent

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[10] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VII, item 1.b, p. 45 (19 April 1996).

[11] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VII, item 1.c, p. 45 (19 April 1996).

sampling and analysis schemes. In addition, consistent with Specific Comment IX.B.1, item 1 (p. 8), above, DOE requests that, with respect to requirements for all sampling and testing of mixed wastes, whether initial or subsequent, the final HWIR refer to and support use of the *Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste* (62 FR 62709; November 20, 1997).

2. p. 63404, col. 2 - p. 63405, col. 1 – Under the proposed rule, retesting frequency would depend on the annual volume of the waste and whether it is a liquid or a non-liquid. EPA explains that commenters on the 1995 HWIR proposal suggested establishing retesting frequency based on waste stream variability or on the magnitude of the difference between exemption levels and concentrations detected in the waste. EPA requests comments on whether retesting frequency should be diminished because of lower annual volumes or less variability in the waste stream.

In comments responding to the 1995 HWIR proposal,[12] DOE expressed concern about the suggested retesting approach, which would have mandated a retesting frequency for each waste qualifying for an HWIR exemption determined solely by the amount of such waste generated annually. Under that suggested approach, as the quantity of a waste generated during one year increased beyond specified quantities, the frequency of required retesting would have been increased proportionate to the annual quantity of waste generated, regardless of the variability of the waste. DOE requested consideration of an alternative approach under which retesting frequencies would be determined by the generator's waste analysis plan, rather than mandated by the regulations. DOE notes that in the 1999 HWIR proposal, EPA has improved the suggested retesting approach by relating the frequency of required retesting not only to annual waste volume, but also to waste form (i.e., liquid or non-liquid). Since waste form affects variability, by relating the testing frequency to waste form, the 1999 HWIR proposal addresses one of DOE's reasons for suggesting that retesting frequencies be determined by the generator's waste analysis plan (i.e., retesting frequency should be established based on the likelihood that hazardous constituent levels in a waste stream have changed). Notwithstanding this improvement, DOE continues to believe that it would be better to establish the retesting frequency for wastes in the generator's waste analysis plan, rather than in the regulations.

XI.B. What Would Happen If My Waste Stream No Longer Meets the Exemption Levels?

1. p. 63405, col. 2 – EPA explains that once an exempt waste is determined to be hazardous again, it would remain hazardous until the waste stream meets the exemption levels and the notification package requirements were fulfilled again. EPA requests comment on whether a waiting period should be required before a waste stream that has lost exempt status can regain its exempt status.

As indicated in Specific Comment VIII, item 2 (pp. 5 - 6), above, and in response to the 1995 HWIR proposal,[13] DOE generally opposes a waiting period before reinstating an HWIR exemption, unless the responsible regulatory agency is explicitly required to conduct an evaluation, confirm that the infraction has been corrected, and notify the applicant that the exemption is reinstated. In addition, DOE suggests that, if

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[12] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.1, item 3, p. 48 (19 April 1996).

[13] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.2, item 4, pp. 59-60 (19 April 1996).

the responsible regulatory agency fails to respond to an application for reinstatement within the waiting period, the exemption should be automatically reinstated, retroactive to the date of the application. DOE is concerned that, if the responsible regulatory agency is not required to investigate and act on an application for reinstatement within the waiting period, issues of budget, regulatory priorities, and work load of the responsible regulatory agency, could delay reinstatement of the HWIR exemption beyond the length of the waiting period. Meanwhile, during the delay, the claimant would be required to implement fully compliant RCRA hazardous waste management systems and procedures for the otherwise exempt, low-risk waste, which could involve significant investment of economic and human resources for a potentially indefinite time. This would be of greatest concern to generators of a waste that qualifies for the HWIR exemption at its point of generation. Especially if the exempt waste stream was the only waste stream having potential to subject the generator to RCRA Subtitle C hazardous waste requirements. Generators and treaters who would have to treat a hazardous waste to qualify it for the HWIR exemption would be less concerned, because they would already have RCRA hazardous waste management systems and procedures in place to deal with the waste before treatment.

If the responsible regulatory agency is required to act within the waiting period (or if there is no waiting period), generators would be motivated to correct the noncompliance that resulted in the loss of exemption as quickly as possible in order to minimize penalties and return to exempt operations (because resources could be focused on returning to exempt operation, rather than diverted to implementing full RCRA compliance). If the responsible regulatory agency later found that a generator had failed to properly correct the noncompliance, an enforcement action could be initiated for the entire period of noncompliance. This should provide adequate incentive for generators, treaters, and other waste handlers to properly correct noncompliance.

XII. What Would Be the Conditions and Requirements for the Landfill-Only HWIR Exemption?

XII.B. What Additional Conditions and Requirements Would I Have to Meet for the Landfill-Only HWIR Exemption?

1. <u>p. 63405, col. 3</u> – EPA explains that wastes which meet the landfill-only HWIR exemption requirements could not be temporarily placed in waste piles or other such intermediate land-based destinations, because risks associated with such temporary placement will not be considered in establishing landfill-only exemption levels.

DOE is concerned that the NPRM describes no mechanism whereby landfills receiving wastes that are subject to the landfill-only HWIR exemption are notified of the prohibition on temporary placement in land-based units of exempt wastes they receive. As further described in Specific Comment XIV.M, item 1 (p. 19), below, DOE suggests that the written notice which the generator is required to send to the landfill include an item explicitly addressing this prohibition.

2. <u>p. 63406, cols. 1 - 3</u> – EPA requests comments on three alternatives for tracking landfill-only exempted waste: (1) directly notify the designated landfill and receive a certification that the waste arrived within 60 days after shipment; (2) use the existing hazardous waste manifest system; (3) use Department of Transportation (DOT) shipping papers. Under this third alternative, the DOT shipping papers would need to include certain additional information, and each transporter would be required to return a copy to the generator (but not keep a copy).

DOE favors the first alternative for tracking landfill-only exempted waste, with one modification. As EPA indicates in the NPRM, the primary purpose of the proposed tracking alternatives under the landfill-only

HWIR exemption would be to ensure that an exempt waste reaches its intended destination and is placed into the destination landfill in a timely manner. DOE believes this purpose can be most efficiently and cost-effectively accomplished using the first alternative, except that DOE suggests the designated landfill be required to return a certification which confirms only receipt of the waste shipment and the date of receipt. DOE's reasons for suggesting that the landfill not be required to certify that the waste arrived within 60 days after shipment is further discussed in Specific Comment XIV.M, item 2 (p. 19), below. DOE supports this alternative because it would not place unnecessary paperwork burdens on nonhazardous material transporters and waste management facilities. DOE shares EPA's concern (expressed in the preamble on p. 63406, col. 2) that requiring such nonhazardous waste handlers to comply with hazardous waste manifest requirements (as would occur under the second alternative) could create considerable burden for both transporters and disposal facilities. As a result, the costs of transportation and disposal could considerably increase. Therefore, DOE favors the uncomplicated and less burdensome approach described as the first alternative (with the suggested modification).

Regarding the third alternative of using DOT shipping papers to track wastes under the landfill-only HWIR exemption, DOE believes the concerns expressed by DOT are valid concerns (e.g., increased burden on nonhazardous waste transporters, lack of DOT authority to regulate some wastes). Hence, DOE agrees with EPA's conclusion (p. 63406, col. 3) that the benefits provided by this option might be outweighed by the complexity of implementation.

3. <u>p. 63406, col. 3</u> – EPA requests comment on the issue of interstate transport of HWIR exempt wastes. In particular, if a State were to adopt an HWIR exemption, HWIR waste would be nonhazardous only within that State or other States with the HWIR exemption. Whereas HWIR exempt wastes shipped to or through a State where the HWIR exemption had not been adopted would have to comply with the applicable hazardous waste requirements.

DOE is concerned about the potential complexity of interstate shipments of HWIR exempt wastes. Since RCRA-authorized States would not be required to adopt the final HWIR exemption rules, exempt wastes could be subject to interstate transportation involving States with and without HWIR programs. Table 1 illustrates the potential complexity in determining applicable manifesting requirements when a patchwork of State requirements is possible. This table provides an overview of manifesting requirements that could result if EPA were to adopt the first proposed alternative for tracking exempt wastes (as described on p. 63406, col. 1 of the preamble).

Table 1: Interstate Transportation Requirements

State of Origin	Intermediate State(s)	Destination State	Hazardous Waste Manifest Requirements
HWIR	HWIR	HWIR	• No HW manifest required • No HW transporter required • Directly notify destination facility of shipment

Table 1: Interstate Transportation Requirements

State of Origin	Intermediate State(s)	Destination State	Hazardous Waste Manifest Requirements
HWIR	HW	HWIR	• Prepare HW manifest indicating that (1) initiating State covers waste under HWIR program; and (2) destination State covers waste under HWIR program • Deliver manifest to first transporter who will carry waste in State without HWIR program; this must be a HW transporter • HW transporter to sign manifest, return copy to generator • HW transporter to deliver manifest to next transporter or destination facility • HW transporter delivering to destination facility to obtain signature on manifest, and return copy with all signatures to generator • Directly notify destination facility of shipment
HW	HWIR, HW	HWIR	• Prepare HW manifest indicating that (1) initiating State covers waste under HW program; and (2) destination State covers waste under HWIR program • Provide manifest to HW transporter • HW transporter to sign manifest, return copy to generator • HW transporter to deliver manifest to next transporter or destination facility, and obtain signature • Ensure that any non-HW transporter in an intermediate HWIR State transmits manifest to next transporter or destination facility, and that destination facility signs manifest and returns copy with all signatures to generator • Directly notify destination facility of shipment

Note: HW denotes States with full hazardous waste regulations, HWIR denotes States with HWIR regulations.

Since EPA has no authority to require States to seek authorization for the less stringent federal HWIR program, DOE suggests that EPA consider urging States to adopt reciprocity laws for exempt wastes being transported through their boundaries, but that will not be disposed of there. In other words, States electing not to seek authorization for HWIR exemptions could be urged to allow wastes that qualify for an HWIR exemption to be transported through the State without a hazardous waste manifest.

XIV. What Might the Regulatory Language for the HWIR Exemption Look Like?

XIV.A. What Is the Purpose of This Exemption?

1. **<u>p. 63407, cols. 2 & 3, section A (1)</u> – This draft language states: "The HWIR exemption outlines the conditions and procedures that a facility can use to exempt a listed hazardous waste from the requirements of 40 CFR Parts 262-266, 270, and under certain circumstances, also from 40 CFR Part 268. A waste may be exempted when – preferably through pollution prevention or otherwise through treatment – the chemicals in the waste are at or below the exemption levels listed in Table 2."**

DOE believes that the language quoted above would be confusing if it were used as regulatory text because it does not clarify that a waste which must be treated after the point of generation to reduce chemicals below HWIR exemption levels remains subject to the LDR treatment standards in 40 CFR Part 268. DOE suggests that, if this draft language is used in any future proposed regulations, EPA consider adding such a clarification.

XIV.B. What Is the Scope of This Exemption?

1. <u>p. 63407, col. 3, section B (2)</u> – This draft language states: "Wastes meeting the requirements described in Section [sic; probably should be XIV.E] are not subject to the land disposal restrictions of 40 CFR Part 268."

DOE believes this draft language would be misleading if it were used as regulatory text because it does not clarify that a waste which must be treated after the point of generation to reduce chemicals below HWIR exemption levels remains subject to the LDR treatment standards in 40 CFR Part 268. DOE suggests that, if this draft language is used in any future proposed regulations, EPA consider adding such a clarification. The clarified text should reference the corresponding regulatory section which designates the requirements described in Section XIV.N (p. 63409, col. 2) of the NPRM.

XIV.C. What Definitions Apply?

1. <u>p. 63407, col. 3, section C</u> – This draft language provides a list of definitions.

If EPA expects to use the pronoun "you" in any future proposed regulations (as indicated in Section XIV.C (1) of the NPRM and throughout the remainder of Section XIV), DOE suggests that EPA expand the list of definitions in any future proposed regulations to include a definition for "you" (see Specific Comment XIV.J, item 1, below).

XIV.G. For Which Chemicals Must I Test in My Waste?

1. <u>p. 63408, col. 3, section G (2)</u> – This draft language states: "For chemicals listed in Table 2 other than those reasonably expected to be present in your waste, you may either test for any such chemical or use your knowledge of the production process that generated the waste *to determine that it is not present*." (emphasis added)

DOE believes it is not possible to determine, based on either process knowledge or testing, that a chemical in Table 2 "is not present," since the phrase "not present" implies that the concentration is zero. Hence, DOE suggests that in any future proposed regulations, EPA revise the quoted sentence to read as follows:

> For a chemical listed in Table 2, other than one reasonably expected to be present in your waste, you may either test or apply your knowledge of the materials or processes used in generating the waste to verify that the chemical is not present at a concentration in excess of its exemption level in Table 3.

In the language suggested above, DOE has substituted the phrase "apply your knowledge of the materials or processes used in generating the waste" (which is similar to language used in 40 CFR 262.11 (Hazardous Waste Determination)) in place of the phrase "use your knowledge of the production process that generated the waste," which was contained in the NPRM. DOE suggests this change to promote consistent use of regulatory language when describing waste information, other than testing data, on which generators may rely for various waste characterization purposes.

XIV.J. What Must My Analysis Show?

1. <u>p. 63408, col. 3, section J (2)</u> – This draft language states: "You must document your ability to analyze a sample spiked at or below the exemption level. Such documentation would consist of analytical results from a sample spiked at or below exemption level concentrations."

DOE believes the pronoun "you" is ambiguous in this draft language. Presumably, the draft language refers to the person who analyzes the waste. However, such person may be employed by either the generator or a commercial laboratory. This being the case, it is unclear whether the generator or the commercial laboratory would be required to maintain the indicated documentation demonstrating that a spiked sample can be analyzed at or below the exemption level. DOE requests that, in any future proposed regulations, EPA clarify that generators who use commercial laboratories would not be required to submit spiked samples to the laboratories and retain the results.

XIV.M. Must I Track My Waste Exempted Under the HWIR Exemption?

1. **p. 63409, col. 1, section M (2)(a) – This draft language specifies the content of the written notice that a generator or treater would be required to send to the receiving landfill for a waste qualifying for the landfill-only exemption.**

As stated in Specific Comment XII.B, item 2 (p. 15), DOE supports tracking landfill-only exempted waste by requiring the generator or treater to directly notify the designated landfill and receive notice that the waste arrived. DOE also suggests that any future proposed regulations require that the written notice to the receiving facility include a warning, similar to the following, which would provide information about the loss of exemption if the waste has not been delivered within 60 days:

> WARNING: If this waste is not delivered to your facility on or before 60 days from the date it was shipped, the waste is no longer exempt and becomes HAZARDOUS WASTE. Therefore, such waste must be managed in a facility with a RCRA hazardous waste permit. DO NOT DISPOSE OF THIS WASTE IF IT WAS SHIPPED MORE THAN 60 DAYS BEFORE YOU RECEIVED IT. NOTIFY THE GENERATOR OR TREATER FROM WHOM IT WAS RECEIVED AT ONCE.

As stated in Specific Comment XII.B, item 1 (p. 15), above, DOE is concerned that the NPRM describes no mechanism whereby landfills receiving wastes that are subject to the landfill-only HWIR exemption are notified of the prohibition on temporary placement in land-based units of exempt wastes they receive. DOE believes this concern could be addressed by requiring a second warning in the written notice to the receiving facility. Such a warning could provide information about the prohibition on temporary placement of exempt waste in land-based units such as waste piles (as described in Section XIV.O (2); p. 63409, col. 2). DOE suggests the following as possible text for this warning:

> WARNING: This waste must not be placed on the land (in any intermediate land-based waste management unit, such as a waste pile) prior to disposal in a landfill. The waste is no longer exempt and becomes HAZARDOUS WASTE upon placement in any such intermediate land-based unit, even if the placement is temporary.

2. **p. 63409, col. 1, section M (2)(b) – This draft language states in part: "You must receive a certification from the landfill owner or operator that the waste shipment reached the landfill within 60 days of shipment. …"**

As mentioned in Specific Comment XII.B, item 2 (p. 15), above, DOE suggests that the landfill owner or operator be required to certify only that the waste shipment was received at the landfill and the date on which it was received. There seems to be no reason to require landfill owners/operators to certify that a shipment took less than 60 days, if the landfill has been warned in the notice of shipment (as described in item 1 of this comment, above) that the waste will be classified as hazardous if received more than 60 days after shipment. Furthermore, requiring such certification (without requiring a corroborating certification from the

generator/treater as to the date of shipment) seems to add an inequitable regulatory burden on landfill owners/operators and may cause them to be less willing to accept the waste.

XIV.N. Must My Waste Meet 40 CFR Part 268 – Land Disposal Requirements?

1. <u>p. 63409, col. 2, section N</u> – The draft language in this section explains that, unless each waste sample is at or below HWIR exemption levels at the point of generation, an exempt waste must be treated to meet applicable LDR treatment standards.

DOE encourages EPA, as part of the HWIR rulemaking, to modify the LDR treatment standards to match the HWIR exemption levels in those cases where the risk-based exemption levels are less stringent than existing LDR levels (see Specific Comment XX.C, item 1 (p. 23), below).

XIV.O. Where May I Dispose of My Exempt Waste?

1. <u>p. 63409, col. 2, section O (2)</u> – The draft language states: "For the landfill-only alternative, you must dispose of this waste directly in a landfill licensed or permitted by the state or federal government *under Subtitle C or D of RCRA*" (emphasis added).

As noted in Specific Comment VI.B, item 1 (p. 3), above, EPA does not explain in the NPRM how the landfill-only HWIR exemption would apply to radioactive wastes mixed with listed hazardous wastes. Consequently, DOE requests confirmation from EPA that a radioactive waste, which contains or is mixed with or derived from a listed hazardous waste, and which meets applicable landfill-only HWIR exemption levels and LDR treatment standards at the point of disposal, may be managed in an appropriate radioactive waste management unit subject to controls under the AEA. DOE believes this interpretation is proper because a radioactive waste management unit subject to AEA controls, whether administered by NRC, an NRC Agreement State, or DOE, would be at least as protective of human health and the environment with respect to hazardous constituents as a nonhazardous waste landfill subject to RCRA Subtitle D controls, which is the basis for the landfill-only HWIR exemption levels.

XIV.Q. What Retesting Must I Do?

1. <u>p. 63409, col. 2</u> – EPA presents a proposed waste retesting schedule based on waste form and annual quantity of waste produced. Retesting for a chemical is not required if after twelve months of testing, analyses have shown concentrations of the chemical to be uniformly below one-tenth of the applicable exemption level.

DOE supports EPA's proposal to eliminate retesting after a chemical has been shown consistently to occur in a waste at concentrations that are well below the applicable HWIR exemption levels. However, DOE is concerned that, if "well below the applicable HWIR exemption levels" is defined to mean "an order of magnitude below the applicable exemption levels," such a definition would prevent the elimination of retesting for at least some chemicals because "an order of magnitude below the applicable exemption level" for such chemicals would be below the analytical detection limit. For such cases, DOE requests that EPA consider establishing the quantitation limit (i.e., the lowest level that can be reliably measured with acceptable limits of precision and accuracy during routine laboratory operating conditions using appropriate methods) as the level below which the chemical must be shown to consistently occur in order to qualify for elimination of retesting.

XVI. How Did EPA Develop the Current Version of the HWIR Risk Assessment?

XVI.B. How Does This Effort Compare With Past HWIR Risk Assessments?

1. <u>p. 63420, col. 1</u> – EPA explains that the revised exemption levels would be reported only as the total concentration of the chemical in the waste, because the groundwater and non-groundwater pathways have been integrated in the 1999 HWIR risk assessment. EPA requests comment on the revised approach to establish regulatory levels based only on the chemical-specific total concentration in the waste, rather than regulating on both total and leachate levels.

For hazardous constituents (e.g., metals) that are not destroyed by treatment, DOE encourages EPA to establish HWIR exemption levels for certain treated waste solids based on leachate (i.e., TCLP) concentrations. Such leachate-based exemption levels should be made available as alternatives to the totals-based HWIR exemption levels for vitrified waste forms. DOE advocates this approach because the Department is concerned that, if HWIR exemption levels are based only on chemical-specific total concentrations, some vitrified metal-bearing wastes would be precluded from qualifying for an HWIR exemption, if the exemption were based solely on the total concentration of metal in the treated waste, even though vitrification not only yields a protective waste form, but also allows for substantial volume reduction. DOE believes that the only potential pathway of concern for a vitrified waste form is groundwater, and that a vitrified waste form provides the protection necessary to eliminate any potential releases to the non-groundwater pathways considered in the HWIR Risk Assessment. Consequently, DOE maintains that HWIR exemption levels based on hazardous constituent concentrations in leachate would be appropriate for wastes treated by vitrification, and should be provided as an option for such wastes.

XVII. What Are the Results of the Current Version of the Risk Assessment?

1. <u>p. 63429, cols. 2 & 3</u> — The preamble explains that the model used for the risk assessment evaluates results over a 10,000 year period of exposure. This time frame allows the model to capture the slow movement of certain chemicals through the subsurface. EPA requests comment on the time period over which exposure at a receptor should be evaluated.

Consistent with comments submitted in response to the 1995 HWIR proposal,[14] DOE recommends using a 1,000-year exposure time horizon for the risk modeling used to establish HWIR exemption levels, rather than a 10,000-year time horizon. The Department makes this recommendation because experience indicates that use of the shorter time frame reduces uncertainties in the modeling, which increases the reliability of results. As part of the performance assessment process, conducted by DOE to assess compliance of low-level waste disposal facilities with the requirements of Order DOE O 435.1-1 (*Radioactive Waste Management*), DOE performs analyses projecting possible risks from contacting, inhaling, or ingesting contaminants. From this experience, DOE has concluded that compounding of rounding and truncation errors, which occurs when the risk modeling time horizon exceeds 1,000 years, can produce nonsensical results. Accordingly, DOE has concluded that caution must be exercised when interpreting risk modeling results calculated over many thousands of years. Furthermore, DOE believes that such results should not be used to assess compliance because of the inherently large uncertainties associated with extrapolating risk calculations over long time frames.

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[14] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment IV.E.4.b(1), item 1, pp. 32-33 (19 April 1996).

XIX. How Would EPA Use the Results of the Risk Assessment To Set HWIR Exemption Levels?

XIX.C. How Would EPA Aggregate the Chemical Concentrations at Each Waste Management Unit into HWIR Exemption Levels?

1. <u>p. 63441, cols. 2 & 3 (below Table 9) and p. 63442, cols. 1 & 2 (above Table 10)</u> – EPA indicates that to match the HWIR exempted wastes to their likely destinations, HWIR exemption levels will be developed for three broad waste form categories: (1) liquids (i.e., wastes that contain less than 1% total suspended solids (TSS)); (2) semi-solids (i.e., wastes that contain between 1 and 30% TSS); and (3) solids (i.e., wastes that contain greater than 30% TSS).

In DOE's comments in response to the 1995 HWIR proposal,[15] the Department encouraged EPA to utilize the same waste category definitions in the HWIR program as are used in the LDR program. DOE's primary concerns were: (1) that adopting different definitions in the HWIR program for the terms "wastewater" and "nonwastewater" than the existing definitions in the LDR program would be confusing; and (2) that using the same definitions in both programs, assuming that EPA redeveloped the HWIR exemption levels accordingly, might eliminate the need to establish "minimize threat" LDR treatment standards as a separate concept from HWIR exemption levels. As stated in Specific Comment VI.C, item 2 (p. 4), above, DOE believes that the approach EPA suggests for defining three categories of wastes (i.e., liquids, semi-solids, and solids), as described in the 1999 HWIR proposal, should address these concerns. While using the percentage of solids to differentiate the categories of wastes does not provide complete consistency between waste category definitions in the HWIR and LDR programs, this option should provide for a clear, concise, and easily distinguishable definition relative to the application of the proposed exemption levels.

2. <u>p. 63442, col. 3 - 63443, col. 1</u> – The preamble states that the concept of "solids" based on the 30% threshold is intended to conform with the historic consideration of wastes that do not have free liquids as defined under 40 CFR 260.10. In other rulemakings, the paint filter test has been established as the method for affirming that solids contain no free liquids. Therefore, as an alternative to the threshold of 30% TSS, EPA requests comment on the use of the paint filter test to distinguish solids without free liquids from other solids for the purpose of the HWIR exemption.

DOE believes that the paint filter test is simpler and less time consuming than the methodology required to determine the actual percentage of TSS in a waste. Therefore, DOE supports establishing the paint filter test as the method for distinguishing the "Solids" category (i.e., solids without free liquids) from other solids (i.e., the "Semi-Solids" category) for the purpose of the HWIR exemption.

XX. How Might EPA Use the Results of the HWIR Model to Revise the Hazardous Waste LDR Treatment Standards?

XX.C. How Might the Risk-Based LDR Levels Be Implemented?

1. <u>p. 63444, cols. 2 & 3</u> – The preamble explains that generally, an HWIR exemption level would replace an LDR numerical treatment standard ("LDR level"), if the two are directly comparable

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[15] DOE Comments, Proposed Rule regarding *Hazardous Waste Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR)*, Specific Comment VIII.A.1.a.ii, item 1, pp. 51-52 (19 April 1996).

(i.e., both are based on total concentrations) and the HWIR exemption level is less stringent than the existing LDR level. In those cases where the HWIR exemption level for a chemical is more stringent than the existing LDR level, the LDR level would not be replaced by the HWIR level.

Section VI of the preamble (p. 63392, col. 1) explains that EPA is developing two options for the HWIR exemption: (1) the generic HWIR exemption; and (2) the landfill-only HWIR exemption. Section X.C of the preamble (p. 63403, col. 2) explains that wastes that have met either set of HWIR exemption levels *after* the point of generation would still be subject to LDR treatment standards. In this section of the preamble (Section XX.C), EPA explains that HWIR exemption levels will replace LDR treatment standards if the HWIR levels are higher (less stringent) than the existing LDR treatment standards. As stated in Specific Comment XIV.N, item 1 (p. 20), above, DOE supports modification of the LDR treatment standards to match the HWIR exemption levels in those cases where the risk-based exemption levels are less stringent than existing LDR levels. However, no mention is made in the NPRM of which set of HWIR exemption levels (generic or landfill-only) will be used to replace LDR treatment standards. It appears that EPA probably intends to use only the generic HWIR exemption levels. DOE has reached this conclusion because the NPRM does not discuss a plan whereby, for nonwastewaters, *two* HWIR exemption levels (i.e., generic and landfill only) would be substituted (in 40 CFR 268.40 and the UTS table in 40 CFR 268.48) in the place of the *one* existing LDR treatment standard level. If DOE is correct, and EPA intends to replace the existing LDR treatment standards with only the generic HWIR exemption levels (in cases where such levels are less stringent than the existing LDR treatment standards), DOE believes the only wastes which will benefit from the landfill-only HWIR exemption will be wastes which meet the landfill-only exemption levels at their point of generation. Other wastes treated after the point of generation to meet the landfill-only exemption levels would require further treatment to meet LDR treatment standards, which would be equal to the generic HWIR exemption levels. Hence, for such wastes the level of treatment required to qualify for the landfill-only exemption would be the same level of treatment required to qualify for the generic HWIR exemption. DOE requests that EPA clarify whether landfill-only HWIR exemption levels would be substituted for LDR treatment standards.

2. **<u>p. 63445, cols. 2 & 3 (above Table 11)</u> – With respect to implementing risk-based LDR treatment standards, EPA requests comment on a suggested approach for addressing chemicals (such as metals, cyclohexanone, methanol, and carbon disulfide) that have LDR treatment requirements based on the TCLP. Specifically, EPA suggests giving the generator of hazardous wastes that contain such chemicals the choice of complying with LDR requirements by meeting either the existing leachate-based (TCLP) LDR treatment standards or the totals-based HWIR exemption levels. If a waste meets existing TCLP levels, but cannot achieve the totals-based HWIR exemption levels, then the waste would satisfy the LDR requirements, but would not be eligible for an HWIR exemption.**

As indicated in Specific Comment XVI.B, item 1 (p. 21), above, DOE encourages EPA to establish HWIR exemption levels for vitrified waste forms based on leachate (i.e., TCLP) concentrations. Such leachate-based exemption levels should be made available as alternatives to the totals-based HWIR exemption levels. DOE further suggests that, if EPA adopts this approach, the alternative leachate-based HWIR exemption levels for vitrified waste forms should be adopted as LDR treatment standards for wastes treated using vitrification (except high-level mixed wastes, for which vitrification has been designated as the specified technology LDR treatment standard because the potential hazards associated with exposure to radiation during analysis precludes setting a concentration-based LDR treatment standard).

XX.D. What Other Issues Would EPA Consider Before Setting Risk-Based LDR Standards?

1. **<u>p. 63446, cols. 2 & 3 & p. 63447, col. 1</u> – EPA requests comment on whether and how to use the results of the HWIR model to revise LDR treatment standards for soils. EPA seeks to maintain the benefits of the alternative soil treatment standards and to create an implementation scheme that is simple and effective. EPA proposes to modify the alternative soil treatment standards so that the constituents of concern could be treated to meet (1) the revised UTS; (2) 10 times the current UTS; or (3) 90% reduction of initial constituent concentration, whichever is greater.**

DOE supports retaining the concept of alternative soil treatment standards. In addition, DOE generally supports the development of risk-based LDR treatment standards. Accordingly, the suggestion to modify the alternative soil treatment standards so that the constituents of concern could be treated to meet (1) the revised risk-based UTS; (2) 10 times the current technology-based UTS; or (3) 90% reduction of initial constituent concentration, whichever is greater, appears reasonable. However, DOE would like to defer any more specific comment on the acceptability of this approach until EPA publishes its unified HWIR exemption proposal.

2. **<u>p. 63447, col. 2</u> – EPA intends that national HWIR exemption levels should not affect site-specific risk-based levels determined for either the contained-in determination or the site-specific risk-based treatability variance.**

DOE agrees that site-specific risk-based levels derived as a result of either a petition for a contained-in determination or a petition for a treatability variance should take precedence over national HWIR exemption levels as a way to establish LDR treatment standards that will minimize threats to human health and the environment.

XXII. How Would the HWIR Exemption Relate to Other Programs?

XXII.I Would Contaminated Media Be Eligible for an HWIR Exemption?

1. **<u>p. 63451, col. 2</u> – EPA states that hazardous contaminated media wastes from remediation sites will be eligible for HWIR exemptions. However, due to the difficulty in characterizing the origin of these wastes, EPA requests comment on whether to require that they be tested for an expanded list of chemicals for the purpose of demonstrating that they are qualified for an HWIR exemption. One option would be to require initial testing for all HWIR exemption chemicals (rather than chemicals reasonably expected to be present in the waste).**

DOE agrees that it is often difficult to characterize the origin of hazardous constituents in contaminated media from remediation sites. Notwithstanding, the Department believes that, many times, generators of contaminated media *will* have significant knowledge of activities and/or processes historically conducted at their remediation sites, making it possible for them to identify hazardous chemicals reasonably expected to be present. So as not to penalize or over-regulate such generators, DOE urges EPA not to unconditionally require initial testing in every case of contaminated media for all HWIR exemption chemicals, or even just an expanded list of chemicals. DOE recommends that, instead, generators be allowed to establish in their waste analysis plans (see Specific Comment IX.B.1, item 1 (p. 7), above) a list of chemicals reasonably expected to be present in their contaminated media. Appropriate documentation should be required to support this list. Records of activities and/or processes that have occurred at the facility, which detail the types of chemicals handled at the site, are examples of appropriate documentation. Testing for the chemicals listed in the waste analysis plan should be the basis for demonstrating that contaminated media qualifies for an HWIR

exemption. Only if a generator is unable to identify chemicals reasonably expected to be present and support such identification with appropriate documentation, should testing be required for an expanded list of chemicals, or all HWIR exemption chemicals.

XXII.N. How Would HWIR Affect Mixed Waste?

1. **p. 63452, col. 3 – The preamble states that, because HWIR would exempt some hazardous wastes from RCRA Subtitle C requirements, it might also, through the same process, exempt some mixed waste from the RCRA hazardous waste regulations (without affecting its status under the Atomic Energy Act) as well. The preamble then explains that, notwithstanding, EPA is proposing a rule, which would establish conditional exemptions from RCRA hazardous waste requirements for certain mixed wastes.**

As indicated in Specific Comments VI.A (p. 3) and VI.B (p. 3), above , DOE requests confirmation that a radioactive waste, which contains, or is mixed with or derived from a listed hazardous waste, and which meets applicable HWIR exemption levels, may be managed in an appropriate radioactive waste management unit subject to AEA controls, whether administered by NRC, an NRC Agreement State, or DOE.

DOE notes that EPA does not explain the relationship between the conditional exemptions for mixed waste, which are separately proposed (64 FR 63464-63501; November 19, 1999) and the HWIR exemptions. Neither does EPA explain exactly how the HWIR exemptions would be implemented in the case of radioactive waste, which contains, or is mixed with or derived from a listed hazardous waste (see Specific Comments VI.A, item 1 (p. 3), VI.B, item 1a (p. 3), and VII, item 1 (p. 5), above). Consequently, DOE requests confirmation from EPA that a radioactive waste, which contains, or is mixed with or derived from a listed hazardous waste, and which meets HWIR exemption levels at its point of disposal (and applicable LDR treatment standards, if exemption levels are met after the point of generation) may be managed in a radioactive waste management unit subject to NRC, NRC Agreement State, or DOE control under the Atomic Energy Act of 1954 (AEA).